

SOUTHERN RANGE EXTENSION FOR THE DELICATE MOUSE (*PSEUDOMYS DELICATULUS*).

Memoirs of the Queensland Museum 46(2): 460. 2001.-Watts & Aslin (1981) described the delicate mouse (*Pseudomys delicatulus*) as a species of the tropical north, from Port Hedland in Western Australia to Bundaberg in Queensland. Despite being widespread, this small cryptic species is rarely encountered across much of its range (Watts & Aslin, 1981). In favourable habitat patches, *P. delicatulus* populations have been found to undergo dramatic fluctuations, sometimes producing brief eruptions after long periods of continuous breeding, later becoming uncommon (Braithwaite & Brady, 1993).

Increased biological survey activity in southeastern Queensland in the past decade has recognised a considerable southward extension of the known range for *P. delicatulus*. It was reported from Lake Broadwater Conservation Park 25km southwest of Dalby (27°20'S 151°00'E) in August 1996 (QM JM11410) (Mathieson et al., 1999). This note reports a further southerly range extension of 130km for *P. delicatulus* to a site south of Inglewood following the capture of an individual during a larger project investigating the flow-on effects on biodiversity resulting from rabbit calicivirus disease induced declines in rabbit numbers.

The survey site is located on 'Whetstone' (28°31'S 150°55'E), 19km SW of Inglewood. The study site consists of three broad habitat types: 1) cracking clay soils adjacent to McIntyre Brook supporting a partially cleared woodland of forest red gum (*Eucalyptus tereticornis*), river red gum (*E. camaldulensis*) and rough-barked apple (*Angophora floribunda*) with an understorey of long grass (*Stipa* spp.); 2) alluvial plains, including an area of pasture, originally a poplar box (*E. populnea*) woodland, now grazed by cattle; and 3) a partially-cleared woodland of cypress pine (*Callitris glaucophylla*), *Eucalyptus* spp. and bullock (*Allocasuarina lehmannii*) on sandy-textured solodid soils, adjacent to an extensive State Forest.

Small vertebrate faunas were surveyed at 8 sites using 4 Elliott trap formations and 4 pitfall lines. There was 1 trap site of each type in the two woodland communities; one along the river and another adjacent to the State Forest. The remaining 4 sites were located within the pasture habitat, which made up a substantial part of the site. Each Elliott trap site consisted of 49 traps arranged in two cross-arms. Elliott traps were spaced at 10m intervals and baited with a mixture of peanut butter and rolled oats. Pitfall trap sites consisted of a continuous 32m aluminium fly-wire drift fence positioned over 7 evenly spaced pits (PVC pipe 15cm diameter, 50cm deep) buried flush with the ground. Trapping was conducted for three consecutive nights.

Whetstone was trapped on nine occasions between October 1996 and June 1999, giving a total trapping effort of 5,145 Elliott trap nights and 588 pitfall nights. A single male *P. delicatulus* (QM JM12786) was captured in an Elliott trap during May 1997 near the State Forest. The habitat surrounding the trap was mostly bullock regrowth on sandy soils with several large fallen trees providing considerable cover. No further *P. delicatulus* were captured despite this site

being sampled on six occasions between August 1997 and June 1999. Extra trapping conducted (100 Elliott trap nights) in bullock regrowth closer to the State Forest boundary in June 1999 and analysis of 70 fox/ear seats collected from the site in winter of 1997 and 1999 (Palmer unpubl. data) also failed to detect this species.

Mus domesticus was the most common and widespread mammal species captured. It was most common (33.3 mice per 100 Elliott trap nights) when the *P. delicatulus* was captured, but numbers were generally low at the site adjacent to the State Forest compared with other sites. Two other native species, *Sminthopsis murina* and *Antechinus flavipes*, were captured. These species were rare, but most individuals were trapped in similar habitat (bullock regrowth) to *P. delicatulus*. No native mammals were captured at the sites within the pasture.

The mouse was kept as a live specimen at the Queensland Museum for almost two years. Initially it was thought to be a Pilliga mouse (*P. pilligaensis*). Later examination of the mouse's skull revealed that it was a *P. delicatulus* or closest to this species. In the meantime, this individual was incorrectly reported by Sandell & Start (1999) to be a *P. pilligaensis*, as a result it appears in the Rabbit Calicivirus Disease Program Report 4* as this species.

This specimen and several others from SE Queensland and far N Queensland raise a number of taxonomic questions. Lack of a holotype for *P. delicatulus* and problems faced with obtaining topotype specimens may make the process of revising this species difficult (S. Van Dyck, pers. com.).

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Literature Cited

- BRAITHWAITE, R.W. & BRADY, P. 1993. The Delicate Mouse, *Pseudomys delicatulus*: a continuous breeder waiting for the good times. *Australian Mammalogy* 16: 93-96.
- MATHIESON, M., JOHNSON, R. & HOBSON, R. 1999. Additional vertebrate fauna records for Lake Broadwater Conservation Park. *Queensland Naturalist* 37: 1-3.
- SANDELL, P.R. & START, A.N. 1999. Rabbit Calicivirus Disease Program Report 4: Implications for Biodiversity. A report of research conducted by participants of the Rabbit Calicivirus Disease Monitoring and Surveillance Program and Epidemiology Research Program. (Bureau of Rural Sciences: Canberra).
- WATTS, C.H.S. & ASLIN, H.J. 1981. The rodents of Australia. (Angus and Robertson: Sydney).
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